Title (en)

PLL frequency synthesizer capable of changing an output frequency at a high speed

Title (de)

Frequenzsynthetisierer mit PLL, der einen Frequenzwechsel des Ausgangs mit hoher Geschwindigkeit ermöglicht

Title (fr)

Synthétiseur de fréquence à PLL permettant de changer la fréquence de sortie à une vitesse élevée

Publication

EP 0840456 A2 19980506 (EN)

Application

EP 97204137 A 19911017

Priority

- EP 91309560 A 19911017
- JP 28178490 A 19901022
- JP 31862990 A 19901124
- JP 14142091 A 19910516

Abstract (en)

In a frequency synthesizer, a first pulse removing circuit (31) is connected between a reference signal generator (21) and a phase-frequency comparator (24). A second pulse removing circuit (32) is connected between a variable frequency divider (23) and the phase-frequency comparator. Responsive to first removing data indicative of a first pulse number, the first pulse removing circuit removes pulses from the reference signal that are equal in number to the first pulse number for a first predetermined cycle to produce a first pulse removed signal. Responsive to second removing data indicative of a second pulse number, the second pulse removing circuit removes pulses from the divided signal that are equal in number to the second pulse number for a second predetermined cycle to produce a second pulse removed signal. Responsive to a current command, a current controlling circuit may control current supplied from/to a charge pump circuit (25). A control circuit may be connected between the phase-frequency comparator and the charge pump circuit. A switch may be inserted between the loop filter and the voltage controlled oscillator. When the switch switches off a PLL, a D/A converter supplies a control voltage to the voltage controlled oscillator and a filter capacitor of the loop filter. The charge pump circuit may comprise a control circuit, a constant current circuit, an integrating circuit, and a sample and hold circuit. <IMAGE>

IPC 1-7

H03L 7/089

IPC 8 full level

H03L 7/089 (2006.01); **H03L 7/107** (2006.01); **H03L 7/14** (2006.01); **H03L 7/18** (2006.01); **H03L 7/183** (2006.01); **H03L 7/189** (2006.01); **H03L 7/197** (2006.01)

CPC (source: EP US)

H03L 7/0898 (2013.01 - EP US); **H03L 7/1072** (2013.01 - EP US); **H03L 7/146** (2013.01 - EP US); **H03L 7/18** (2013.01 - EP US); **H03L 7/183** (2013.01 - EP US); **H03L 7/189** (2013.01 - EP US); **H03L 7/1972** (2013.01 - EP US)

Cited by

US2018302096A1; CN104283569A; EP1341308A1; GB2361119A; CN100421067C; US10523218B2; US6759912B2; WO03017495A1; WO2005015383A1; US10855292B2; US11201625B2

Designated contracting state (EPC)

DE FR GB

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EP 0482823 A2 19920429; **EP 0482823 A3 19930609**; **EP 0482823 B1 19980826**; AU 642536 B2 19931021; AU 8602191 A 19920430; CA 2053748 C 19950207; DE 69130046 D1 19981001; DE 69130046 T2 19990506; EP 0840456 A2 19980506; EP 0840456 A3 19990825; EP 0840457 A2 19980506; EP 0840457 A3 19990825; US 5173665 A 19921222; US 5276408 A 19940104

DOCDB simple family (application)

EP 91309560 A 19911017; AU 8602191 A 19911021; CA 2053748 A 19911018; DE 69130046 T 19911017; EP 97204136 A 19911017; EP 97204137 A 19911017; US 78109391 A 19911022; US 93398892 A 19920821